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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/717,293

11/19/2003

Bruce W. Ramme

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10/25/2006

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EXAMINER

MARCANTONI, PAUL D

ART UNIT

PAPER NUMBER

1755

DATE MAILED: 10/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action  
Before the Filing of an Appeal Brief**

Application No.

10/717,293

Applicant(s)

RAMME ET AL.

Examiner

Paul Marcantoni

Art Unit

1755

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 12 October 2006 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.  
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**NOTICE OF APPEAL**

2. ☐ The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

**AMENDMENTS**

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because  
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);  
(b) ☐ They raise the issue of new matter (see NOTE below);  
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or  
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).

5. ☒ Applicant's reply has overcome the following rejection(s): New matter rejection withdrawn.

6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

7. ☐ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: \_\_\_\_\_

Claim(s) objected to: \_\_\_\_\_

Claim(s) rejected: \_\_\_\_\_

Claim(s) withdrawn from consideration: \_\_\_\_\_

**AFFIDAVIT OR OTHER EVIDENCE**

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).

9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).

10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

**REQUEST FOR RECONSIDERATION/OTHER**

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:  
See Continuation Sheet.

12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). \_\_\_\_\_

13. ☐ Other: \_\_\_\_\_



Paul Marcantoni  
Primary Examiner  
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Continuation of 11. does NOT place the application in condition for allowance because: for the reasons set forth in the attached sheets and in the final rejection.

Applicant's 10/12/06 after final rejection arguments have been fully considered but they are not fully persuasive.

New Matter (withdrawn):

The terms "wherein the fluidized bed conveyer is an air slide" added to applicants' independent claims is supported on page 12, lines 15-23 of applicants' specification. The new matter rejection is thus withdrawn.

35 USC 103:

Claims 1,3,5-11,13-18, and 20-23 are rejected under 35 U.S.C. 103(a) as obvious over Srinivasachar et al. '447 or 120, Matsuyama et al. 663, Siddle '851 B1, Edlund et al. '567 B1, *Zemskov et al., EP 380467 (Fercher et al.), Fujita (JP 04061981), Hamaguchi et al. (JP 07155722 or JP 07155723), Hoermeyer et al. (DE 19801321), Okada (JP 2003154233), or Cochran et al. (RD 470003)* alone or in view of Tolman (US Patent No. 5,280,701) and line 6 , page 8 of applicants specification admitting that their process "may" be a continuous process (not must be a continuous process).

*Note : Italicized references are one page abstracts only.*

All of the above cited references teach heating a sorbent which can be a solid material such as fly ash, activated carbon, soil, etc. to liberate mercury from these solid particulates thus anticipating the instant invention. Even if not anticipated, overlapping ranges of temperature would have been prima facie obvious to one of ordinary skill in the art and would have expected to obtain the same result of mercury removal (see abstract and claims for each reference teaching heating to remove mercury).

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The applicants also present a particular method how they heat or pass heat through openings to remove mercury. It is the examiner's position that technique of heating would have been an obvious design choice for one of ordinary skill in the art as long as a critical temperature is achieved that leads to the removal/liberation of mercury from the solid particulate matter.

Tolman teaches that the use of a *fluidized bed combustor* as a heating means is old and conventional in the art and could have been applied as the heating source for the primary references above because this heating technology was known at the time of the applicant's invention. Also, the applicants do not require that their process be continuous but only that it may be continuous. Nevertheless, it is still *prima facie* obvious for one of ordinary skill in the art to make a batch process continuous. *In re Dilnot* 138 USPQ 248 (CCPA 1963).

Response:

Applicants argue that the primary references do not teach an air slide as a means of moving or conveying the heat treated material. Applicants also state that Tolman teaches a fluidized bed combustor but not an "air slide". Applicants would appear to hold the position that because their invention contains this air slide for moving their heated material and allowing air to flow through porous openings to help it move that this is new and unexpected over the prior art. The examiner does not find this concept a new one for conveyance of a material as it is quite nearly the same as a puck moving across a table in a previously and maybe still popular hobby/sport of *air hockey* wherein the puck travels along upward jets of air to create a frictionless surface. It is

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agreed however that heated air is not used for air hockey. This concept for moving material along is notoriously known in the art and it is already conventionally used in fluidized beds. While applicants discuss fluidized bed combustors in Tolman '701, they do not state that fluidized bed combustors conventionally have different known conveyance means including air slides which have heated air. The applicants are silent in this regard. The applicants are also reminded that they must traverse the examiner's statement that air slides are conventionally used in fluidized beds as conveyance mechanisms will be taken in the next response to be admitted prior art (See MPEP 2144.03 for Reliance on Common Knowledge in the art or "well known" Prior art).

It is also noted that the primary references are not limited in the heating means they use to remove mercury from the sorbent. Srinivasachar et al. '447 even teaches heating in an oven or *other combustion chamber* (see col.6, lines 1-2). This is inclusive of fluidized bed combustion systems as well as heat conveyors that contain a porous bottom for flow of heat and movement of material. In other words, an air slide or gas slide which can use heated air. Matsuyama et al. '663 teaches heating in a rotary kiln "or other furnace" (col.2, line 64) which can include a fluidized bed or an air/gas slide that can be heated through pervious or porous openings in the porous plate as the material is being transported or conveyed over a distance. Cochran (RD 470003) teaches that fly ash (sorbent) is "pneumatically conveyed" (ie which is inclusive of flowing air) in a fluid bed combustor. If fly ash is being pneumatically conveyed in a fluid bed combustor, this is certainly inclusive of air slides which are conventionally used in fluidized bed combustor systems.

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Art Cited as Relevant but NOT part of Examiner's Rejection:

The following prior art has been cited of interest and has not been used as part of the examiner's rejection. It has only been cited to show the state of the art at the time of applicants' invention as well as the specifics of what encompasses fluidized bed systems. In other words, air slides are conventionally used in fluidized bed combustion systems. They are as follows:

*Johnson* (US 3664935 abstract-STN answer 7 of 8) teaches that a fluidized bed is "a closed air slide conveyer duct extending over the entire longitudinal axis of the cell and is sloped at a 2° angle to cause the fluidized alumina to flow by gravity to the feed locations. This abstract makes it evident a fluidized bed combustion system is inclusive of an air slide.

*Johnson* (US Patent 3,664,935) teaches in more detail the abstracts teaching can be found in column 2, lines 15-75).

Dunstan (US Patent Number 4,619,531) teaches in column 5, lines 35-40, that "pressurized air may be admitted to vessel **36** through inlet pipe **38** and thence through a *perforated* plate **40** and then through a *porous* mat **39**. This creates fluidized bed conditions thorough conveying conduit 41 in a closed system.... Durstan provides solid support that fluidized beds are notoriously known in the art to use air slides as conveyance means for material.

*Stegmaier* teaches the use of a fluidized bed conveyor for transport is old in the art (see abstract).

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Jahnig et al. '317 teaches calcining ("heating") of coke to remove sulfur content residue (col.1, lines 23-25) and that "air slides" or "gas slides" are conventionally used are also used with an electrical resistance heating system (col.1, lines 26-34). Jahnig et al. further teach heating can be controlled by adding baffles allowing for air flow, pulsing the aeration gas, etc. Jahnig et al. teach that the use of an air slide heating system for residue removal of sorbent materials such as coke is old in the art. It is an example of a conventional and known heating system other than other known heating systems available to one of ordinary skill in the art.

The examiner maintains the rejection is proper for the reasons set forth above and in the final rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Marcantoni whose telephone number is 571-272-1373. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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